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EXAMINER	
SHERMAN, STEPHEN G	

ART UNIT	PAPER NUMBER
2674	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,369	OH, JANG GEUN	
	Examiner	Art Unit	
	Stephen G. Sherman	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Paragraph [0039] of the specification states: "In addition, brightness level information corresponding to when the LCD is in a high temperature state can be provided within the EDIC specification." The examiner suggests changing the sentence to read: ". In addition, brightness level information corresponding to when the LCD is in a high temperature state can be provided within the EDID specification."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 5-6, 12, 15 and 22-23 are rejected under 35 U.S.C. 102(a) as being anticipated by Miller et al. (US 6,411,306).

Regarding claim 1, Miller et al. disclose an apparatus for setting brightness control codes used to control a brightness of a display screen (Figure 4), comprising: a

sensor configured to measure a brightness of a display screen and to output a brightness signal (Figure 4, item 14 and column 5, lines 23-25); a controller configured to receive the brightness signal and to output brightness control codes based on the brightness signal (Column 5, lines 20-35. The examiner interprets that the microprocessor 18 would act as the said controller since the microprocessor receives the luminescence reading from the sensor and that since the display device is adjusted closely to that value from the microprocessor, the microprocessor also would output the control codes.), wherein the brightness control codes can be used to selectively adjust a brightness of the display screen (Column 5, lines 33-41. The examiner interprets that the adjustment of power to the backlight adjusts the brightness of the display screen.) .

Regarding claim 5, Miller et al. disclose the apparatus according to claim 1, wherein the controller is configured to record the brightness control codes in a memory of the display screen (Column 4, lines 25-30. The examiner interprets that since the display is part of a camera, which is one device, that the memory the values are stored in would be a memory of the display screen.).

Regarding claim 6, Miller et al. disclose the apparatus according to claim 1, wherein the controller is configured to output the brightness control codes to at least one of a system BIOS of a computer, an operating system of a computer, and a microcontroller of a computer system (Column 5, lines 5-14. The examiner interprets that any other physical device or medium employed to store a computer program to be either a system BIOS, and operating system or a microcontroller.).

Regarding claim 12, Miller et al. disclose a display screen for a computer (Column 6, lines 59-62. The examiner interprets that the different display device could be a display screen for a computer.), comprising: a display portion for displaying an image (Figure 4, item 22); and a memory (Figure 4, item 20) configured to store a plurality of brightness control codes that can be used by a controller of a computer system to set the display screen to a corresponding plurality of predetermined brightness levels (Column 5, lines 20-30. The examiner interprets the values for the display luminescence the microprocessor retrieve from the memory to be the brightness control codes.).

Regarding claim 15, Miller et al. disclose a computer system, comprising: a display screen (Figure 4, item 22); a sensor configured to sense a brightness of the display screen and to output a brightness signal (Figure 4, item 14 and column 5, lines 23-25); and a controller coupled to the display screen and the sensor and configured to control a brightness of the display screen based on the brightness signal output by the sensor (Figure 4, item 18 and Column 5, lines 20-35. The examiner interprets that the microprocessor 18 would act as the said controller since the microprocessor receives the luminescence reading from the sensor and that since the display device is adjusted closely to that value from the microprocessor, the microprocessor also would control the brightness.).

Regarding claim 22, Miller et al. disclose the computer system according to claim 15, wherein the sensor is installed at a center or one side of the display screen (Column 4, lines 34-38. The examiner interprets that since the sensor is used to obtain

measurements of the display illuminance that the sensor would have to be installed near the display screen at a position that would be either in the center of or on one side of the display screen.).

Regarding claim 23, Miller et al. disclose a method for controlling a brightness level of a display in a computer system, the method comprising: reading brightness control codes from a memory of the display (Column 5, lines 20-30); and controlling a brightness of the display using the brightness control codes (Column 5, lines 40-41. The examiner interprets that if the power is adjusted to the backlight that the brightness will be adjusted.).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 2-4, 7, 16, 18-19, 24, 28-32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Shirriff (US 6,094,185).

Regarding claim 2, Miller et al. disclose the apparatus according to claim 1. Miller et al. fails to teach of the apparatus wherein the controller is also configured to control a brightness of the display screen such that the display screen can be adjusted to a predetermined brightness level, and wherein the controller uses the brightness signal from the sensor to set the brightness control codes that corresponds to the predetermined brightness level. Shirriff discloses of an apparatus wherein the controller is also configured to control a brightness of the display screen such that the display screen can be adjusted to a predetermined brightness level, and wherein the controller uses the brightness signal from the sensor to set the brightness control codes that corresponds to the predetermined brightness level (Column 3, lines 23-38. The examiner interprets that since the memory is used to map a light signal from a sensor to a user preference that the processor would act as the microcontroller of Miller et al. and that the mapping is the adjusting the display screen to a predetermined brightness, where the predetermined brightness is the user preference table.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to

adjust the brightness level of a display device such that the device can optimize its brightness characteristics.

Regarding claim 3, Miller et al. and Shirriff disclose the apparatus of claim 2. Shirriff also discloses wherein the controller is also configured to control the display screen such that the display screen can be adjusted to a plurality of different predetermined brightness levels, and wherein the controller uses brightness signals output from the sensor at each of the plurality of different predetermined brightness levels to set a plurality of different brightness control codes that correspond to each of the plurality of different predetermined brightness levels (Figure 42, user preference table 42 and Column 3, lines 23-38. The examiner interprets that since user preferences can be adjusted that there would be more than one user preference stored and that this would constitute a plurality of different predetermined brightness levels and that the sensor could map values to anyone of these plurality of levels.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics for a plurality of different brightness levels.

Regarding claim 4, Miller et al. disclose the apparatus of claim 1. Miller et al. fails to teach of the apparatus wherein the controller is configured to record the brightness control codes in a memory of a computer system. Shirriff discloses of an apparatus wherein the controller is configured to record the brightness control codes in a memory of a computer system (Column 3, lines 23-38. The examiner interprets that

since the memory is used to map the values to the predetermined values, that the brightness control codes would be stored in memory.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to adjust the brightness level of a display device and these values could be stored in memory for later use.

Regarding claim 7, Miller et al. disclose the apparatus according to claim 1. Miller et al. fails to teach of the apparatus wherein the sensor comprises at least on photodiode. Shirriff discloses of an apparatus wherein the sensor comprises at least on photodiode (Figure 3, item 62. The examiner interprets that the light sensor could be a photodiode and that it is common to have a photodiode as a light sensor.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a photodiode can be used to adjust the brightness level of a display device.

Regarding claim 16, Miller et al. disclose the computer system according to claim 15. Miller et al. fails to teach of the apparatus wherein the sensor comprises at least on photodiode. Shirriff discloses of an apparatus wherein the sensor comprises at least on photodiode (Figure 3, item 62. The examiner interprets that the light sensor could be a photodiode and that it is common to have a photodiode as a light sensor.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a computer system in which a photodiode can be used to adjust the brightness level of a display device.

Regarding claim 18, Miller et al. disclose the computer system of claim 15. Miller et al. fails to teach of the computer system wherein the controller is configured to generate brightness control codes based on the brightness signal of the sensor, and wherein the brightness control codes can be used to selectively adjust a brightness of the display screen. Shirriff discloses of a computer system wherein the controller is configured to generate brightness control codes based on the brightness signal of the sensor, and wherein the brightness control codes can be used to selectively adjust a brightness of the display screen (Column 3, lines 23-38. The examiner interprets that the processor acts as the controller and that since it maps a sensor value to a predetermined value that it uses this value to adjust a brightness of a display screen.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics.

Regarding claim 19, Miller et al. and Shirriff disclose the computer system according to claim 18. Miller et al. also discloses wherein the controller is configured to store the brightness control codes in at least one of the system BIOS, an operating system, and a microcontroller of the computer system (Column 5, lines 5-14. The examiner interprets that any other physical device or medium employed to store a computer program to be either a system BIOS, and operating system or a microcontroller.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display

device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics using control codes that are stored in memory.

Regarding claim 24, Miller et al. disclose the method according to claim 23. Miler et al. fail to teach of the method wherein the reading step comprises reading a plurality of brightness control codes from the memory of the display, wherein each of the brightness control codes corresponds to a different predetermined brightness level, and wherein the controlling step comprises sing the brightness control code corresponding to a desired brightness level to control the brightness of the display. Shirriff discloses a method wherein the reading step comprises reading a plurality of brightness control codes from the memory of the display, wherein each of the brightness control codes corresponds to a different predetermined brightness level, and wherein the controlling step comprises sing the brightness control code corresponding to a desired brightness level to control the brightness of the display (Figure 3 and column 3, lines 23-39). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to provide a way to control a display device in which the brightness and power consumption of the display can be optimized.

Regarding claim 28, Miller et al. disclose a method of setting brightness control codes for a display, comprising: driving the display (Column 5, lines 40-41. The examiner interprets that since the power to the backlight is adjusted that the display is driven.); and sensing a brightness of the display (Column 5, lines 23-25). Miller et al. fails to teach of a method of setting brightness control codes for a display comprising:

adjusting the driving of the display until the display is driven at a predetermined brightness level; and setting a brightness control code corresponding to the predetermined brightness level. Shirriff discloses a method of setting brightness control codes for a display comprising: adjusting the driving of the display until the display is driven at a predetermined brightness level (Column 3, lines 23-38. The examiner interprets that since the values are mapped to the predetermined value and then the display is adjusted that it would therefore adjust the driving until it is at a predetermined brightness.); and setting a brightness control code corresponding to the predetermined brightness level (Column 3, lines 29-32). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to provide a way to control a display device in which the brightness and power consumption of the display can be optimized.

Regarding claim 29, Miller et al. and Shirriff disclose the method according to claim 28. Shirriff also discloses wherein the driving step comprises initially driving the display screen using a brightness control code provided by the display manufacturer, and wherein the setting step comprises setting a new brightness control code that replaces the brightness control code provided by the display manufacturer (Figure 2 and Figure 4. The examiner interprets that if values can be updated or changed that there had to be initial values set when the display was made by the manufacturer for there to be values to be changed.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to provide a

way to control a display device in which the brightness and power consumption of the display can be optimized.

Regarding claim 30, Miller et al. and Shirriff disclose the method according to claim 28. Shirriff also discloses wherein the driving, sensing adjusting and setting steps are preformed a plurality of times to set a plurality of different brightness control codes corresponding to a plurality of different predetermined brightness levels (Figures 2, 3 and 4. The examiner interprets that it can be seen from the figures that the steps can be performed a plurality of times and can set a plurality of different brightness levels found in the preference tables.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to provide a way to control a display device in which the brightness and power consumption of the display can be optimized for a plurality of different brightness levels.

Regarding claim 31, Miller et al. and Shirriff disclose the method according to claim 30. Shirriff also discloses the method further comprising the step of storing the plurality of brightness control codes in a memory of the display (Column 3, lines 23-38. The examiner interprets that since the memory is used to map the values to the predetermined values, that the brightness control codes would be stored in memory.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to adjust the brightness level of a display device and these values could be stored in memory for later use.

Regarding claim 32, Miller et al. and Shirriff disclose the method according to claim 30. Miller et al. also disclose the method further comprising the step of storing the plurality of brightness control codes in at least one of a system BIOS, an operating system and a microcontroller of a computer system. (Column 5, lines 5-14. The examiner interprets that any other physical device or medium employed to store a computer program to be either a system BIOS, and operating system or a microcontroller.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics using control codes that are stored in memory.

Regarding claim 36, Miller et al. discloses a method of controlling a display, comprising: driving the display (Column 5, lines 40-41. The examiner interprets that since the power to the backlight is adjusted that the display is driven.); and sensing a brightness of the display (Column 5, lines 23-25). Miller et al. fails to teach of a method of setting brightness control codes for a display comprising: adjusting the driving of the display until the display is driven at a predetermined brightness level; setting a brightness control code corresponding to the predetermined brightness level; repeating the driving, sensing adjusting and setting steps a plurality of times to set a plurality of different brightness control codes corresponding to a plurality of different predetermined brightness levels; and using one of the brightness control codes corresponding to a desired brightness level to drive the display at the desired brightness level. Shirriff

discloses a method of setting brightness control codes for a display comprising: adjusting the driving of the display until the display is driven at a predetermined brightness level (Column 3, lines 23-38. The examiner interprets that since the values are mapped to the predetermined value and then the display is adjusted that it would therefore adjust the driving until it is at a predetermined brightness.); and setting a brightness control code corresponding to the predetermined brightness level (Column 3, lines 29-32); repeating the driving, sensing adjusting and setting steps a plurality of times to set a plurality of different brightness control codes corresponding to a plurality of different predetermined brightness levels (Figures 2, 3 and 4. The examiner interprets that it can be seen from the figures that the steps can be performed a plurality of times and can set a plurality of different brightness levels found in the preference tables.); and using one of the brightness control codes corresponding to a desired brightness level to drive the display at the desired brightness level (Column 3, lines 29-38). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Shirriff in order to provide a way to control a display device in which the brightness and power consumption of the display can be optimized for a plurality of different brightness levels.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Menendez et al. (US 2003/0035020). Miller et al. disclose the apparatus according to claim 1. Miller et al. fail to teach of the apparatus wherein the senor comprises a jig configured to be temporarily attached to the display screen.

Menendez et al. disclose an apparatus wherein the senor comprises a jig configured to be temporarily attached to the display screen (Paragraph [0018]. The examiner interprets that since the jig is arranged to support the sensor that the sensor comprises a jig, of which when combined with the teachings of Miller et al. could be temporarily attached to the display screen.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Menendez et al. in order to create a display device in which a sensor, which can be temporarily fixed to a display device and can be used to adjust the brightness level.

8. Claims 9, 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Mendelson et al. (US 6,559,826).

Regarding claim 9, Miller et al. disclose the apparatus according to claim 1. Miler et al. fails to teach of the apparatus wherein the brightness control codes are structured in an EDID format. Mendelson et al. disclose of an apparatus wherein the brightness control codes are structured in an EDID format (Column 9, lines 66-67 and Column 10, lines 1-5). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Mendelson et al. in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics using control codes structured in EDID format.

Regarding claim 13, Miller et al. disclose the display screen according to claim 12. Miller et al. fail to teach of the display screen wherein the memory is configured to

store the brightness control codes in an EDID format. Mendelson et al. disclose of a display screen wherein the memory is configured to store the brightness control codes in an EDID format (Column 9, lines 66-67 and Column 10, lines 1-5). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Mendelson et al. in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics using control codes that are stored in memory and structured in EDID format.

Regarding claim 25, Miller et al. disclose the method according to claim 23. Miller et al. fail to teach of the method wherein the reading step comprises reading brightness control codes from the display that are provided in an EDID format. Mendelson et al. disclose of a method wherein the reading step comprises reading brightness control codes from the display that are provided in an EDID format (Column 9, lines 66-67 and Column 10, lines 1-5). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Mendelson et al. in order to provide a way to control a display device in which the brightness and power consumption of the display can be optimized and the control codes are in EDID format.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Mendelson et al. (US 6,559,826) and further in view of Woo (US 2003/0043106). Miller et al. and Mendelson et al. disclose the apparatus according to claim 9. Miller et al. and Mendelson et al. fail to teach of the apparatus

wherein the brightness control codes comprise information used to control a power inverter of a liquid crystal display. Woo discloses an apparatus wherein the brightness control codes comprise information used to control a power inverter of a liquid crystal display (Figure 1 and Figure 3.The examiner interprets that since Figure 3 shows brightness control information and lamp drive current, and that Figure 1 shows an inverter before the LCD that the control codes comprises information used to control the power inverter.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Mendelson et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

10. Claims 11, 14, 17 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Woo (US 2003/0043106).

Regarding claim 11, Miller et al. disclose the apparatus of claim 1. Miller et al. fail to teach of the apparatus wherein the brightness control codes includes high temperature brightness control codes that indicate ho to control the brightness of the display screen when the display screen is operated at high temperatures. Woo discloses an apparatus wherein the brightness control codes includes high temperature brightness control codes that indicate ho to control the brightness of the display screen when the display screen is operated at high temperatures (Figures 3, 4 and 5 and paragraph [0015]). Therefore it would have been obvious to "one of ordinary skill" in the

art to combine the teachings of Miller et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 14, Miller et al. disclose the display screen according to claim 12. Miller et al. fails to teach of the display screen wherein the memory is configured to store inverter control codes that can be used to control an inverter that supplies power to the display screen. Woo discloses a display screen wherein the memory is configured to store inverter control codes that can be used to control an inverter that supplies power to the display screen (Figure 1 and Figure 3.The examiner interprets that since Figure 3 shows brightness control information and lamp drive current, which is said to be stored in ROM, and that Figure 1 shows an inverter before the LCD that the control codes comprises information used to control the power inverter.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 17, Miller et al. disclose the computer system according to claim 15. Miller et al. fails to teach of the computer system further comprising an inverter, coupled to the display screen and the controller and configured to provide power to the display screen, wherein the controller controls the inverter to adjust the brightness of the display screen. Woo discloses a computer system further comprising an inverter,

coupled to the display screen and the controller and configured to provide power to the display screen, wherein the controller controls the inverter to adjust the brightness of the display screen (Figure 1 and Figure 3.The examiner interprets that item 30 of Figure 1 would contain a controller to control item 40 using the codes found in Figure 3.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 26, Miller et al. disclose the method according to claim 23. Miller et al. fail to teach of the method wherein the reading step includes reading high temperature control codes from the display, wherein the high temperature control codes provide information about controlling a brightness of the display when the display is operating at a high temperature. Woo discloses a method wherein the reading step includes reading high temperature control codes from the display, wherein the high temperature control codes provide information about controlling a brightness of the display when the display is operating at a high temperature (Figures 3, 4 and 5 and paragraph [0015]). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 27, Miller et al. discloses the method according to claim 23. Miller et al. fail to teach of the method wherein the reading step comprising reading brightness control codes that provide information about how to control an inverter coupled to the display to control a brightness of the display. Woo discloses a method wherein the reading step comprising reading brightness control codes that provide information about how to control an inverter coupled to the display to control a brightness of the display (Figure 1 and Figure 3.The examiner interprets that item 30 of Figure 1 would contain a controller to control item 40 using the codes found in Figure 3.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al. and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Shirriff (US 6,094,185) and further in view of Mendelson et al. (US 6,559,826). Miller et al. and Shirriff disclose the computer system according to claim 18. Miller et al. and Shirriff fail to teach of the computer system wherein the brightness control codes are structured in an EDID format. Mendelson et al. discloses a computer system wherein the brightness control codes are structured in an EDID format (Column 9, lines 66-67 and Column 10, lines 1-5). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Mendelson et al. in order to create a computer system in which a sensor can

be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics using control codes structured in EDID format.

12. Claims 21, 33-35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,411,306) in view of Shirriff (US 6,094,185) and further in view of Woo (US 2003/0043106).

Regarding claim 21, Miller et al. and Shirriff disclose the computer system according to claim 18. Miller et al. and Shirriff fail to teach of the computer system wherein the brightness control codes include high temperature brightness control codes that indicate how to control the brightness of the display screen when the display screen is operated at high temperatures. Woo discloses a computer system wherein the brightness control codes include high temperature brightness control codes that indicate how to control the brightness of the display screen when the display screen is operated at high temperatures (Figures 3, 4 and 5 and paragraph [0015]). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 33, Miller et al. and Shirriff disclose the method according to claim 30. Miller et al. and Shirriff fail to teach of the method wherein the setting step comprises setting brightness control codes that indicate how to control an inverter that supplies power to the display. Woo discloses a method wherein the setting step

comprises setting brightness control codes that indicate how to control an inverter that supplies power to the display (Figure 1 and Figure 3.The examiner interprets that item 30 of Figure 1 would contain a controller to control item 40 using the codes found in Figure 3.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 34, Miller et al. and Shirriff disclose the method according to claim 30. Miller et al. and Shirriff fail to teach of the method wherein the setting step includes setting high temperature brightness control codes that provide information about how to control a brightness of the display when the display is operating at a high temperature. Woo discloses a method wherein the setting step includes setting high temperature brightness control codes that provide information about how to control a brightness of the display when the display is operating at a high temperature (Figures 3, 4 and 5 and paragraph [0015]). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Regarding claim 35, Miller et al. and Shirriff disclose the method of claim 28. Miller et al. and Shirriff fail to teach of the method wherein the adjusting step comprises

changing a signal applied to an inverter that supplies power to the display to adjust a brightness of the display. Woo discloses a method wherein the adjusting step comprises changing a signal applied to an inverter that supplies power to the display to adjust a brightness of the display (Figure 1 and Figure 3.The examiner interprets that item 30 of Figure 1 would contain a controller to control item 40 using the codes found in Figure 3 and that the signal sent from item 30 to 40 would change based on the brightness control information.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Woo in order to create a display device in which a sensor can be used to adjust the brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption for different brightness levels.

Regarding claim 37, Miller et al. and Shirriff disclose the method according to claim 36. Miller et al. and Shirriff fail to teach of the method wherein the using step comprises using a brightness control code corresponding to the desired brightness to control an inverter that supplies power to the display. Woo discloses a method wherein the using step comprises using a brightness control code corresponding to the desired brightness to control an inverter that supplies power to the display (Figure 1 and Figure 3.The examiner interprets that item 30 of Figure 1 would contain a controller to control item 40 using the codes found in Figure 3.). Therefore it would have been obvious to "one of ordinary skill" in the art to combine the teachings of Miller et al., Shirriff and Woo in order to create a display device in which a sensor can be used to adjust the

brightness level of a display device such that the device can optimize its brightness characteristics and realize lower power consumption.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wagner discloses of executing steps to control the backlight driver of a display in order to change the brightness. Migny discloses of using a sensor to update and control the brightness of a display device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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SS

21 September 2005

REGINA LIANG
PRIMARY EXAMINER